

## Anatomy and taxonomic composition of the genus *Latisipho* Dall (Gastropoda: Buccinidae) from the Russian waters

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**ABSTRACT.** Based on the shell structure, anatomical and radular characters of seven species recorded from the Russian marine fauna and attributed to genera *Latisipho* and *Helicofusus*, *L. pharcidus* is reduced to the junior synonym of *L. hypolisipus*, whereas *L. erroneus*, *L. jordani*, *L. georgianus*, and *H. luridus* – to the synonyms of *L. hallii*.

In 1916, Dall described subgenus *Latisipho* within the genus *Colus* Röding, 1799, with the type species *Chrysodomus (Sipho) hypolisipus*. He noted that numerous species of *Latisipho* exist in the Bering Sea region, and are strongly contrasted with typical *Colus* by their buccinoid form and strongly recurved short canal [Dall, 1918]. In the list of shell-bearing mollusks of the Northwest coast of America, Dall [1921] attributed ten species to *Latisipho*: *Latisipho hypolisipus* (Dall, 1891), *L. hallii* (Dall, 1873), *L. jordani* (Dall, 1913), *L. erroneus* (Dall, 1919), *L. georgianus* (Dall, 1921), *L. pharcidus* (Dall, 1919), *L. aphelus* (Dall, 1890), *L. halibreectus* (Dall, 1919), *L. clementinus* (Dall, 1919), and *L. dalmasius* (Dall, 1919). Some authors [Turgeon et al., 1998] considered *L. hypolisipus* as the junior synonym of *L. aphelus*. The photograph of the type specimen of *L. aphelus* given in Dall [1925] is too small, and unsatisfactory for making a conclusion about its similarity with *L. hypolisipus*. That is why we prefer not to accept this synonymy until the examination of the type of *L. aphelus* is possible. *L. halibreectus* is usually included in *Colus* [Kantor, Sysoev, 2005]. *L. clementinus*, due to its small-sized, long-fusiform shell, is now attributed to *Retimohnia* [McLean, 1995]. *L. dalmasius* was not referred to in the literature since Dall's description [1919]. Based on the photograph of the type (by courtesy of USNM) we include it into the synonymy of *L. hallii* (see below). The rest six species, namely *Latisipho hypolisipus*, *L. pharcidus*, *L. hallii*, *L. jordani*, *L. erroneus*, and *L. georgianus*, were recorded in the recent most complete checklist of the Russian marine mollusks [Kantor, Sysoev, 2005]. The authors noted that the latter four species could probably be synonyms because of the similarity of the shell sculpture.

The purpose of this paper was to revise the taxonomic composition of the genus *Latisipho* from the Russian seas, based on anatomical and conchological characters of six mentioned species and the species, described within the other genus, but found being closer to *Latisipho*, *Helicofusus luridus* Golikov in Golikov et Scarlato [1985]. There is a number of works containing descriptions of shells and sometimes radulae of *Latisipho* [Golikov, Gulbin, 1977; Bouchet, Warén, 1985; Kosuge, 1991; Okutani, 2000], and the data on their ecology and distribution [Golikov, Sirenko, 1998; Golikov et al., 2001; Kantor, Sysoev, 2005]. Nevertheless, there are no data on the head-foot and mantle morphology, as well as the anatomy of digestive and reproductive systems.

The species of the genus appeared to be very variable both conchologically and anatomically, and after examination of a large number of specimens I came to the conclusion that there are only two valid species. The synonymy and descriptions of these two species, namely *L. hypolisipus* and *L. hallii*, are given below. I found it useful to include morphological descriptions of specimens, selected as conchologically most similar to types of synonymized nominal species recorded from Russian fauna [Kantor, Sysoev, 2005].

### Materials and methods

The preserved material was obtained from the Zoological Institute of Russian Academy of Sciences (RAS) – ZIN, Saint-Petersburg, Russia, P. P. Shirshov Institute of Oceanology of RAS – IO, Moscow, Russia, and the Zoological Museum of the Moscow State University – ZMMU, Moscow, Russia. Parts of proboscises were serially sectioned at 8 µm after embedding in paraplast, and stained with Masson triple stain. The radulae were removed by gross dissection, cleaned using diluted bleach (NaOCl), air-dried, coated with gold and examined with a Tescan Scanning Electron Microscope. Some radulae were embedded in glycerol and examined using light microscopy.